

ABSTRACT OF THE DISCLOSURE

A method of monitoring operation of an automated tool includes positioning a wireless sensor or microelectromechanical system device having at least one sensor in close proximity to the automated tool, monitoring at least one condition of the automated tool, emitting signals containing sensor information in space to a processor which processes the sensor information and in the event the processor determines that the automated tool has departed from desired conditions issues a responsive signal. In one embodiment digital signals are transmitted from the sensor to the processor employing an RF carrier. Microprocessor responsive signals may be employed to initiate corrective action and initiate alarms as well as providing data. Corresponding apparatus for monitoring an automated tool is provided. In another embodiment of the invention, the sensor is energized remotely through energy transmitted in space such as RF energy. In a further embodiment of the invention, a wireless, self-powered energy harvesting sensor is operatively associated with the automated tool and responsive to motion of the tool, establishes movement of an electrical conductor within a magnetic field to induce current in the conductor which is electrically connected to the sensors to energize the same.